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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,478

12/30/2004

Avigdor Bieber

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EXAMINER

JOHNSON, CONNIE P

ART UNIT

PAPER NUMBER

1752

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/519,478

Applicant(s)

BIEBER ET AL.

Examiner

Connie P. Johnson

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/30/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The remarks and amendment filed 12/14/2006 have been entered and fully considered.
2. Claims 1-12 and 24-26 are presented.
3. Claims 24-26 are new.
4. The 103(a) rejection is withdrawn.

Response to Arguments

5. Applicant's arguments, see pages 5-9, filed 12/14/2006, with respect to the rejection(s) of claim(s) 1-12 and 24-26 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made herein.
6. Applicant argues that Crawford teaches a process for vacuum deposition of metal or metal oxides on substrates and not printing plates.

Crawford teaches a vapor deposition process of an aluminum/aluminum oxide composition, wherein the composition may be deposited onto different layers (see col. 1, lines 66-68 and col. 2, lines 1-3). The composition may be used for any layer that requires good adhesion to the substrate. This metal/metal oxide mixture is not in the substrate itself, but applied to the substrate as a separate layer. Although Crawford does not specifically teach that the composition may be used in printing plates, Crawford outlines the use of an aluminum/aluminum oxide composition in any

Art Unit: 1752

composition that requires good adhesion of the layers to a substrate. Applicant's invention meets this limitation.

7. Applicant argues that Teng teaches a laser-ablatable layer while the instant invention discloses a laser-absorbing layer.

Applicant's argument is persuasive and the rejection over Teng is withdrawn. However, the Teng reference in the new rejection teaches a laser-absorbing layer or a laser-ablatable layer with separate components of each.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-12 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teng, U.S. Patent No. 6,242,156 B1 in view of Crawford et al., U.S. Patent No. 4,430,366.

Teng teaches a lithographic printing plate comprising a substrate and a radiation-sensitive layer (abstract). The radiation-sensitive layer may be a single layer or multiple layers with different compositions (col. 5, lines 16-18). Therefore, the radiation-sensitive layers of Teng also meet the limitations of a primer layer coating layer. Teng also teaches an overcoat layer that is non-radiation sensitive (film-form layer). The non-radiation-sensitive overcoat layer (film-form) is coated on the radiation-sensitive layer to

Art Unit: 1752

retard oxygen inhibition and prevent surface durability (col. 5, lines 40-44). Since the overcoat layer isolates the composition from air and prevents oxygen from entering the radiation-sensitive layer, it is expected that the lack of oxygen would also reduce the UV energy required to cure the composition as in instant claim 11. Teng also teaches a polymer substrate in the printing plate composition (col. 6, line 40). The substrate may be oleophilic (ink-accepting) while, the radiation-sensitive layer comprises hydrophilic (ink-repelling) properties (col. 5, lines 8-9). The radiation-sensitive layers of Teng are also UV-absorbing as exemplified by the UV-absorbing dyes in the radiation-sensitive layers (see col. 8, lines 17-60). Specifically, leuco-crystal violet is a UV-absorbing dye (see col. 8, lines 26-27). Teng does not teach that the radiation-sensitive layer comprises a gradient solid dispersion of metal-metal oxide nor that the substrate comprises a polycarbonate film.

However, Crawford teaches applying aluminum-aluminum oxide compositions by vapor deposition (see example 1). Crawford also teaches varying ratios of aluminum and aluminum oxide throughout the thickness of the layer (col. 3, lines 53-65). The thickness of the layer comprising the aluminum/aluminum oxide is 50 to 5000 angstrom (col. 3, lines 2-3). This thickness meets the limitation of the range of 0.02 to 0.6 microns as in instant claim 6. Vapor deposition by definition comprises dispersing the metal/metal oxide particles in an uneven distribution throughout the layer to form a gradient dispersion. This process is usually performed by evaporation or sputtering. Therefore, the layer comprising the aluminum/aluminum oxide composition is expected to have a non-stoichiometric ratio between the metal and metal oxide atoms. Further,

Art Unit: 1752

the vapor deposition process controls the amount of oxygen in the composition, therefore it is expected that the composition would have more metal atoms than metal oxide atoms. Crawford also teaches that the composition comprises a polymeric substrate comprising polycarbonate (col. 5, line 3). Crawford teaches that compositions comprising metals that are vapor deposited on the layer preferably have polymeric substrates (col. 4, lines 61-67 and col. 5, lines 1-12). Among the preferred polymers is polycarbonate as in instant claim 25. It would have obvious to one of ordinary skill in the art to use the aluminum/aluminum oxide composition of Crawford in the radiation-sensitive layer of Teng because the aluminum/aluminum oxide composition provides good adhesion of the substrate to the radiation-sensitive layers as taught by Crawford (col. 1, lines 58-67 and col. 2, lines 1-3). Further, it would have been obvious to one of ordinary skill in the art to use the polycarbonate coated substrate of Crawford in the composition of Teng to form a substrate that is compatible with aluminum/aluminum oxide coatings as taught by Crawford.

10. Claims 1 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teng (above) in view of Crawford (above) as evidenced by Nishida et al., U.S. Patent No. 5,417,164.

Teng and Crawford teach a lithographic printing plate comprising a radiation-sensitive layer (laser-absorbing layer) with an aluminum/aluminum oxide composition as relied upon above. Teng also teaches that the radiation-sensitive layer (coating layer) comprises at least one polyfunctional vinyl ether or epoxy monomer (or oligomer) (see

Art Unit: 1752

col. 9, lines 12-15). Teng does not teach that the epoxy oligomer comprises silicon. However, it would have been obvious to one of ordinary skill in the art to use a silicon epoxy polymer in the radiation-sensitive layer (coating layer) because silicon polymers, such as a silicon epoxy polymers and silicon acrylate polymers increase ink-repelling properties of the radiation-sensitive layer as evidenced by Nishida (col. 6, lines 60-67 and col. 7, lines 1-12).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Connie P. Johnson whose telephone number is 571-272-7758. The examiner can normally be reached on 7:30am-4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1752

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Connie P. Johnson 3/4/07

Connie P. Johnson
Examiner
Art Unit 1752

Cynthia H. Kelly

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